

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: May 17, 1994  
Date Received: May 6, 1994  
Project: 3350 Soil, PO #M34419  
Date Samples Extracted: May 11, 1994

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLE  
FOR PCB AS AROCHLOR 1254 BY GC/ECD  
(MODIFIED 8080)  
Results Reported as  $\mu\text{g/g}$  (ppm)**

<u>Sample ID</u>	<u>PCB</u>	<u>Internal Standard</u> (% Recovery)
M34419	0.2	101%
<b><u>Quality Assurance</u></b>		
Blank	<0.05	53%
M34419 (Duplicate)	0.2	117%
M34419 (Matrix Spike) % Recovery	103%	125%
M34419 (Matrix Spike Duplicate) % Recovery	96%	121%
Spike Level	4	

Date of Report: May 17, 1994  
Date Received: May 6, 1994  
Project: 3350 Soil, PO #M34419  
Date Samples Extracted: May 9, 1994

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLE  
FOR FINGERPRINT CHARACTERIZATION  
BY CAPILLARY GAS CHROMATOGRAPHY  
USING A FLAME IONIZATION DETECTOR (FID)  
AND ELECTRON CAPTURE DETECTOR (ECD)**

Sample ID

GC Characterization

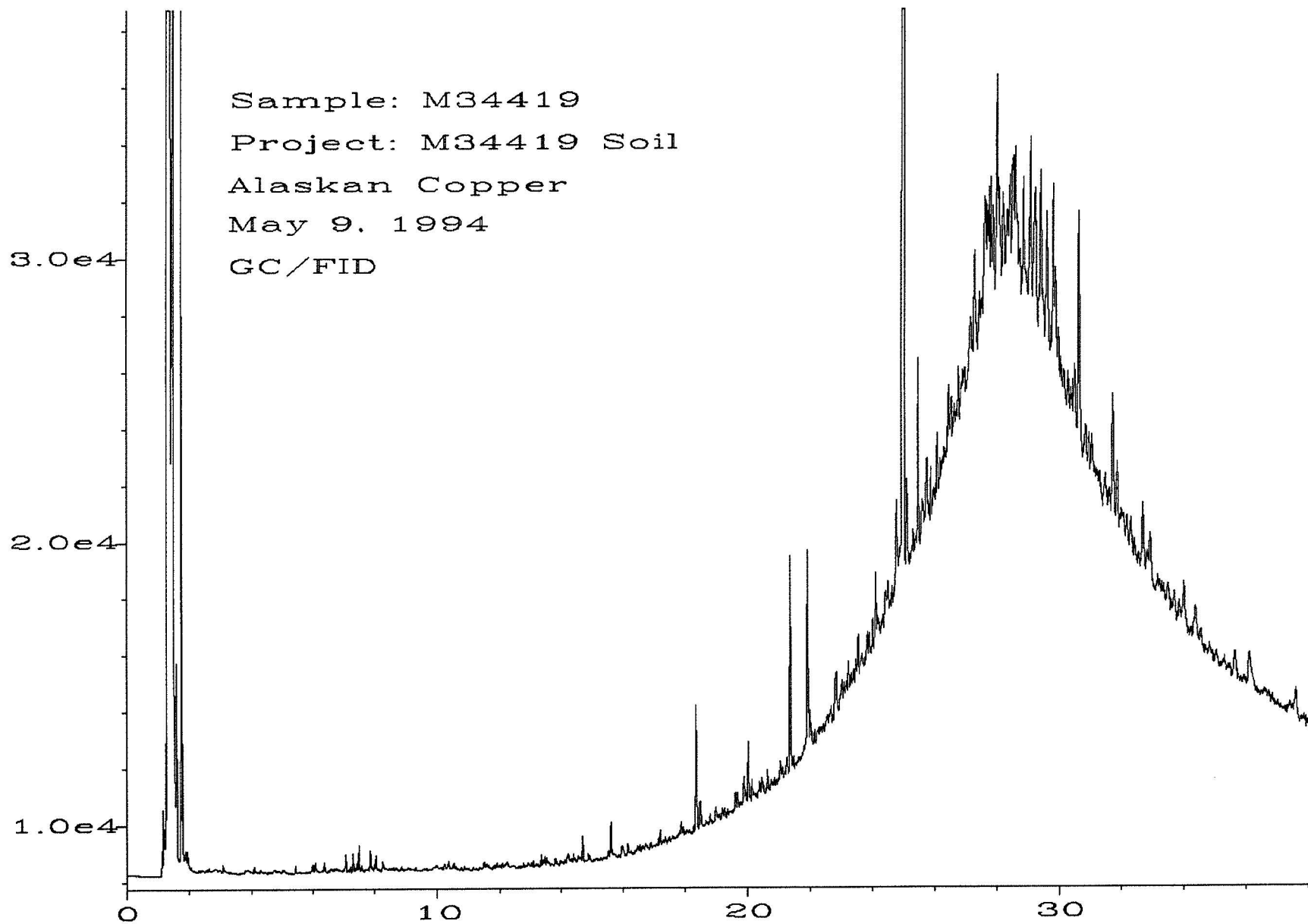
M34419

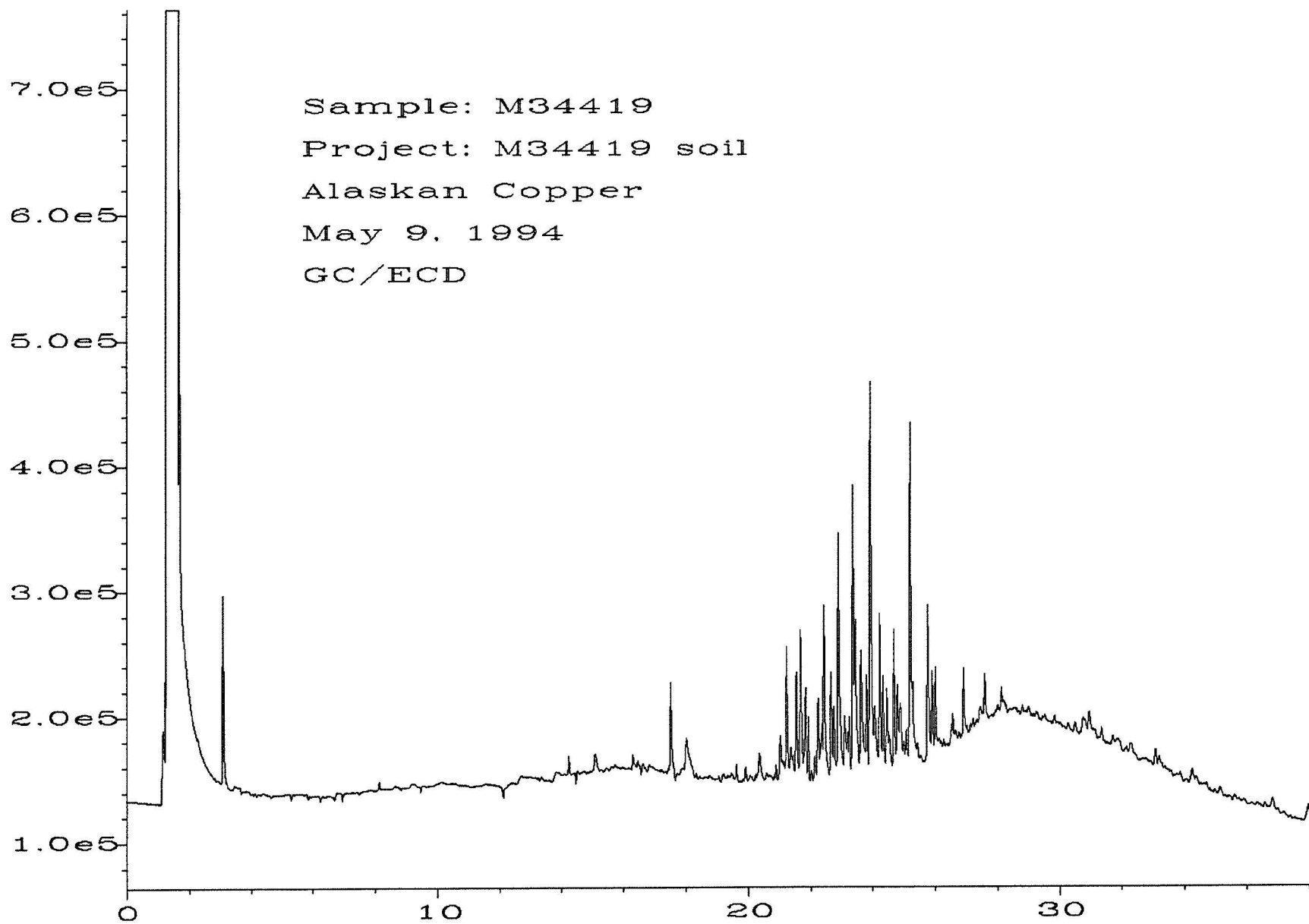
The GC trace using the flame ionization detector (FID) showed the presence of high boiling compounds. The patterns displayed by these peaks are indicative of motor oil or transformer oil. The high boiling compounds appeared as a broad hump of peaks eluting from *n*-C<sub>20</sub> to *n*-C<sub>35</sub> showing a maximum near *n*-C<sub>28</sub>. A series of peaks were seen in the GC/ECD trace that are possibly due to the presence of PCB.

The large peak seen near 25 minutes on the GC/FID trace is pentacosane, added as a quality assurance check for this GC analysis.

2:38







**FRIEDMAN & BRUYA, INC.**

**ENVIRONMENTAL CHEMISTS**

Andrew John Friedman  
James E. Bruya, Ph.D.  
(206) 285-8282

3012 16th Avenue West  
Seattle, WA 98119-2029  
FAX: (206) 283-5044

**DUPLICATE COPY**

**May 17, 1994**

**INVOICE # 94ACU0517-1**

Alaskan Copper Works  
628 South Hanford  
Seattle, WA 98134

RE: Project 335: Results of testing requested by Gerry Thompson, Project Leader  
for material submitted on May 6, 1994.

1 soil sample analyzed for Total PCB as Arochlor 1254 by GC/ECD @ \$85 per sample	\$ 85.00
1 soil sample characterized by capillary gas chromatography @ \$125 per sample	<u>125.00</u>
Amount Due .....	\$ 210.00

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FAX: (206) 283-5044

May 17, 1994

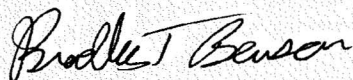
Gerry Thompson, Project Leader  
Alaskan Copper Works  
628 South Hanford  
Seattle, WA 98134

Dear Mr. Thompson:

Enclosed are the results from the testing of material submitted on May 6, 1994 from Project 3350 Soil, PO #M34419.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,



Bradley T. Benson  
Chemist

BTB/dp

Enclosures